

PATENT COOPERATION TREATY

PCT**INTERNATIONAL SEARCH REPORT**

(PCT Article 18 and Rules 43 and 44)

| | | |
|--|---|--|
| Applicant's or agent's file reference 519-204-WO | FOR FURTHER ACTION | |
| International application No. PCT/EP2004/051280 | International filing date (day/month/year) 29/06/2004 | (Earliest) Priority Date (day/month/year) 11/07/2003 |
| Applicant ZGENE A/S | | |

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 06 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. **Certain claims were found unsearchable** (See Box II).

3. **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regards to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. _____

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

b. none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT**Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)**

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:
 - a. type of material
 a sequence listing
 table(s) related to the sequence listing
 - b. format of material
 in written format
 in computer readable form
 - c. time of filing/furnishing
 contained in the international application as filed
 filed together with the international application in computer readable form
 furnished subsequently to this Authority for the purpose of search
2. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/051280

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12N9/00 C12N9/52

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, EMBL

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category ° | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| A | US 6 582 947 B1 (KARLSSON ANNA ET AL) 24 June 2003 (2003-06-24) | 1-55 |
| X | Table 3 and claim 1 <i>S34-204-US</i> #4 | 3, |
| T | PISKUR J ET AL: "Animal deoxyribonucleoside kinases: 'forward' and 'retrograde' evolution of their substrate specificity" FEBS LETTERS, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL, vol. 560, no. 1-3, 27 February 2004 (2004-02-27), pages 3-6, XP004492481 ISSN: 0014-5793 the whole document ----- -/- | 1-15 #5 |

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

13 October 2004

Date of mailing of the international search report

03/11/2004

Name and mailing address of the ISA

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Simm, M.D.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/051280

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|----------|--|-------------------------|
| A | KUNISHIGE I ET AL: "Suicide gene therapy for human uterine adenocarcinoma cells using herpes simplex virus thymidine kinase" MEDLINE, 1 January 1999 (1999-01-01), XP002256196 ABSTRACT ----- #6 | 23-55 |
| Y | DATABASE EMBL 'Online' 17 February 2003 (2003-02-17), XP002299221 retrieved from EMBL Database accession no. CB251541 the whole document ----- #3 | 1-15 |
| X | KNECHT, W ET AL.: "Mosquito has a single multisubstrate deoxyribonucleoside kinase characterised by unique substrate specificity." NUCLEIC ACIDS RESEARCH, vol. 31, no. 6, 15 March 2003 (2003-03-15), pages 1665-1672, XP002299350 Abstract, materials and methods and Discussion & DATABASE UNIPROT Multisubstrate deoxyribonucleoside kinase 1 June 2003 (2003-06-01), Database accession no. Q86LB8 abstract ----- #2 | 1-3, 7, 8, 10-12, 15 |
| Y | Abstract, materials and methods and Discussion & DATABASE UNIPROT Multisubstrate deoxyribonucleoside kinase 1 June 2003 (2003-06-01), Database accession no. Q86LB8 abstract ----- | 1-15 |
| A | WO 01/88106 A (MUNCH PETERSEN BIRGITTE ; PISKUR JURE (DK); KNECHT WOLFGANG (DK)) 22 November 2001 (2001-11-22) the whole document ----- #7 153 - 204 - 60 | 1-55 |

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2004/051280

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: 33-50 because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 33-50 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/EP2004/051280

| Patent document cited in search report | Publication date | | Patent family member(s) | Publication date |
|--|------------------|------------|---|--|
| US 6582947 | B1 | 24-06-2003 | AU 2018500 A EP 1137764 A1 JP 2002532090 T WO 0036099 A1 | 03-07-2000 04-10-2001 02-10-2002 22-06-2000 |
| ----- | | | | |
| WO 0188106 | A | 22-11-2001 | AU 6007301 A CA 2408530 A1 CN 1429268 T WO 0188106 A2 EP 1283874 A2 JP 2003533225 T NZ 522216 A US 2004072168 A1 | 26-11-2001 22-11-2001 09-07-2003 22-11-2001 19-02-2003 11-11-2003 28-05-2004 15-04-2004 |
| ----- | | | | |